Texture Map NURBS Dragon

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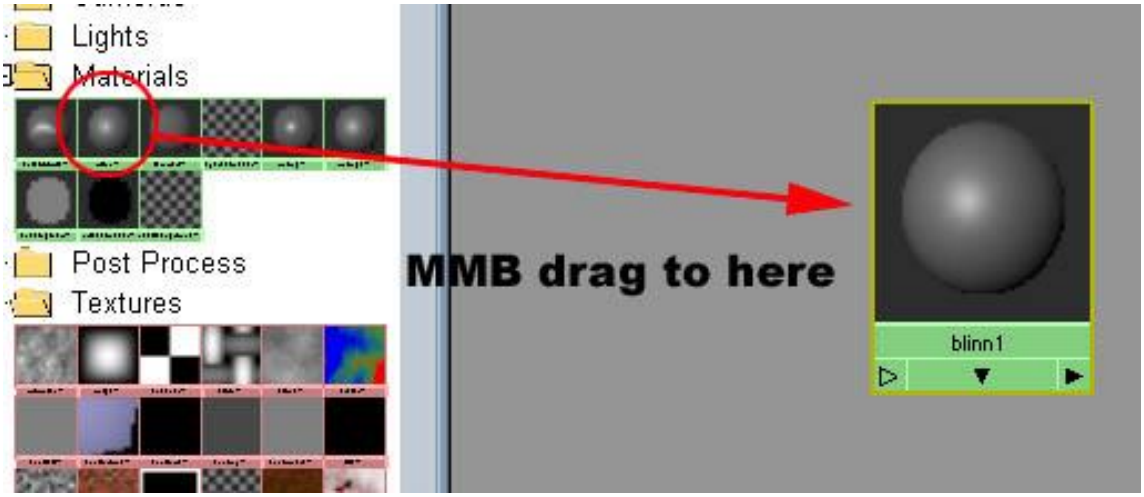
In this section, I would like to use Deep Paint 3D to help me to indicate the location of UV on the NURBS surfaces. But 3D Paint package only recognizes polygons with UV . So, we need to convert NURBS to polygon, then export the polygons to 3D paint program. First, I will create bump map in 3D-paint program, and then I will use PhotoShop to define the bump map. Let start now,

1.Rename all the surfaces you had created, you can do this in the modeling stage. Select a surface, in the Channels window, key in a proper name for your surface.

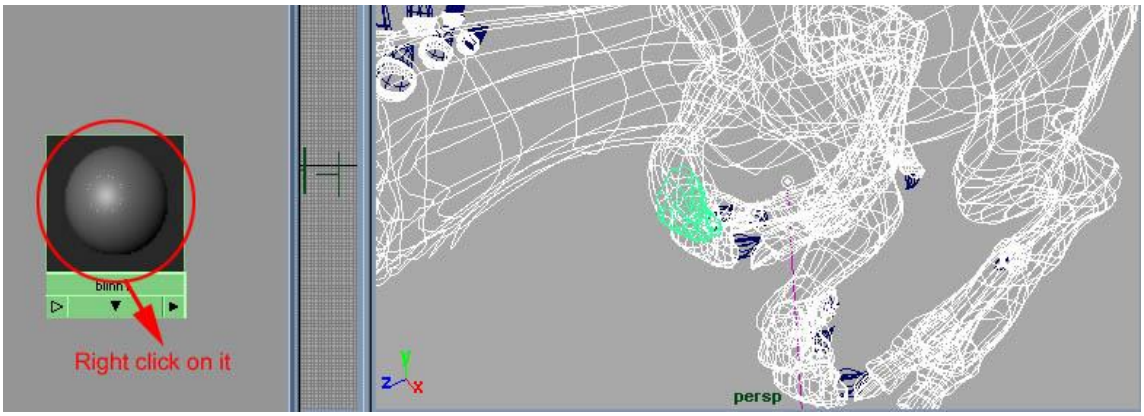
2.After renamed all the surfaces; I will apply a material for the surfaces. In this case, I would like to use Blinn for the skin as Blinn has the Softest specular highlight among the rest.

Open up the Hypershade window, from the visor window's material folder, MMB drag the Blinn to the working space. (Figure 38).



(Figure 38)

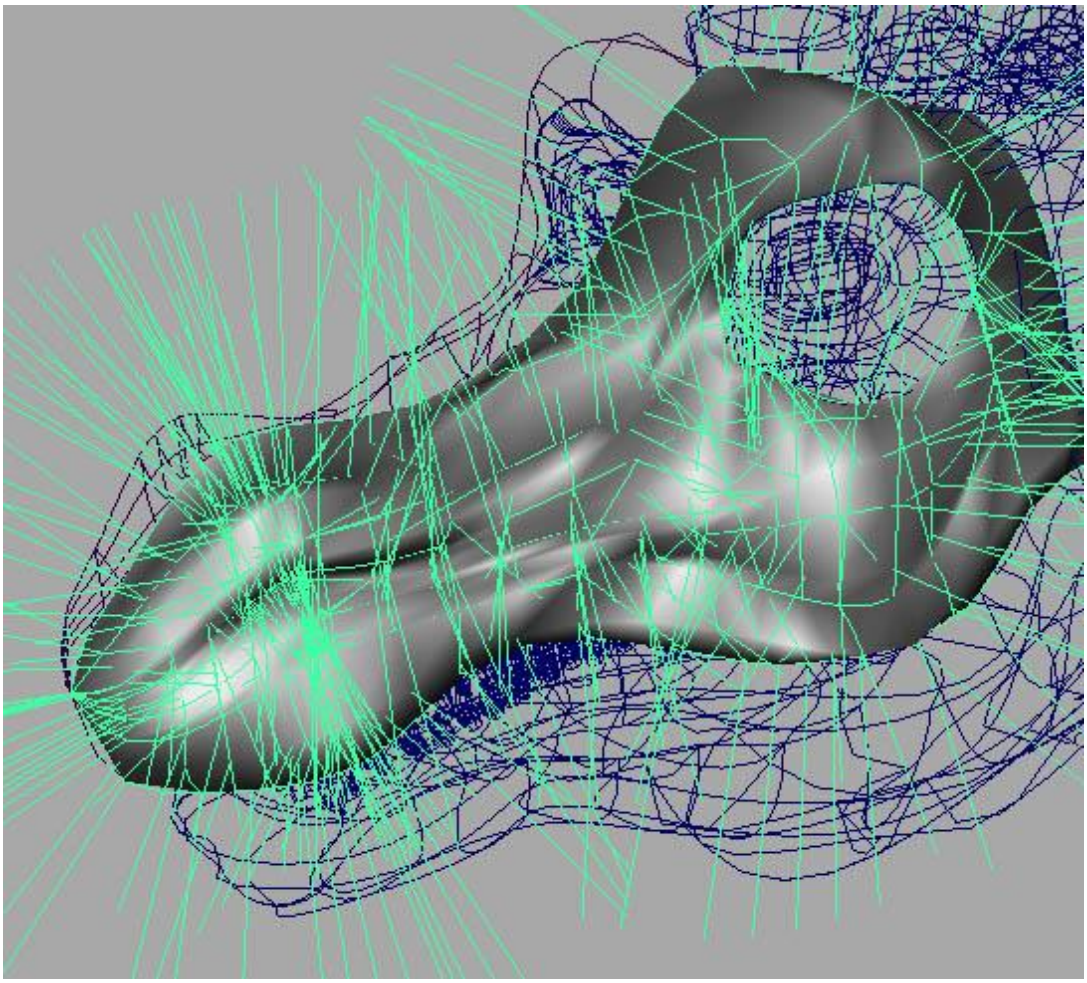
Shift select the surfaces that u wish to assign to Blinn material, then point your mouse to Blinn in working space, Left click on Blinn (don't let go, a menu will pop- up, select Assign Material to Selected. (Figure 39)



(Figure 39)

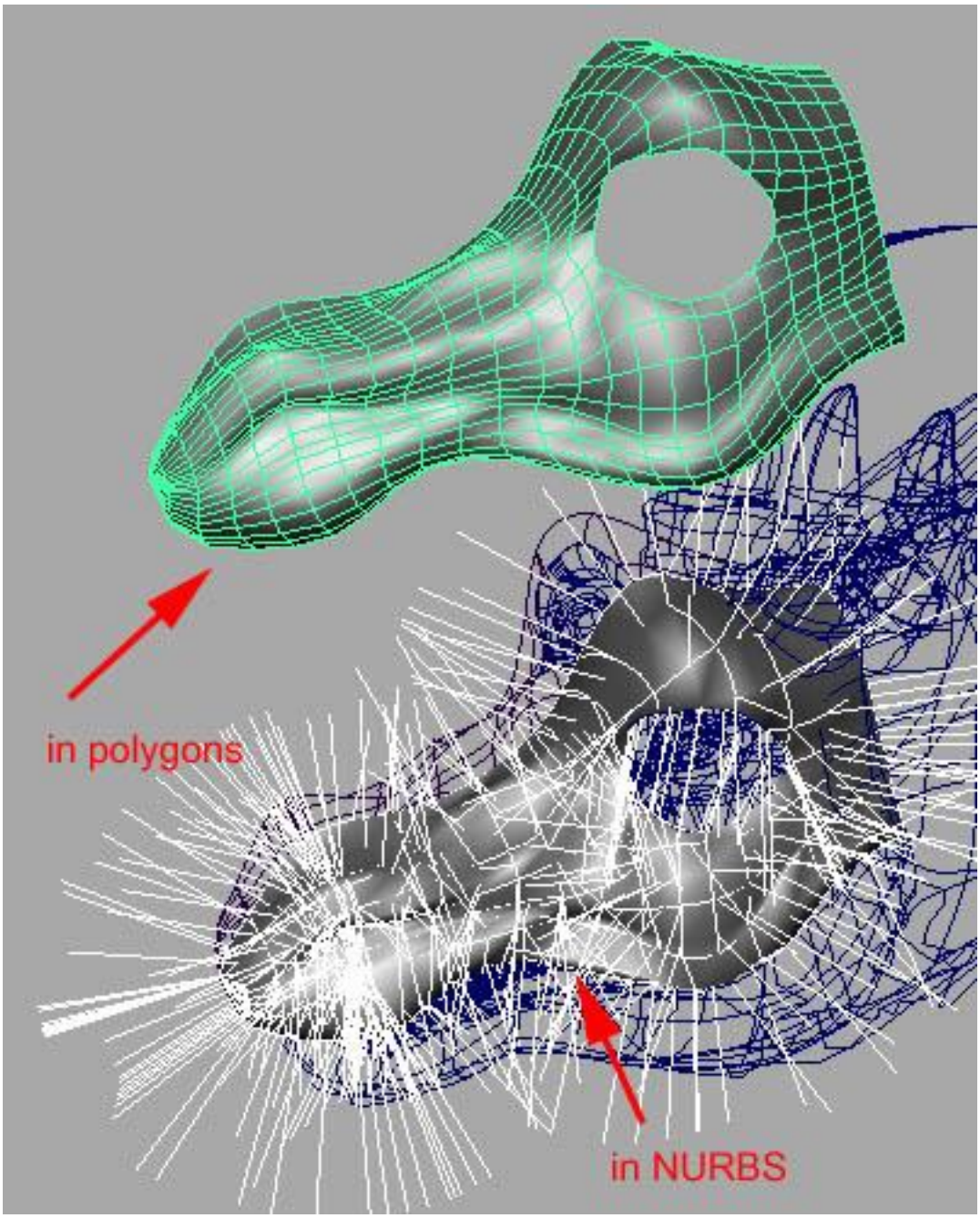
3. Toggle to Rendering mode; create a Direction Light from light panel. Place it to light up your model. Save your work.

4.1 Now, we going to convert NURBS to polygons for Deep Paint 3D.I will going to do it part by part. First, I will do for left side head. Select the left side head, toggle to Modeling mode, go to Display->NURBS components->Normal (shaded mode) to check the Surface Normal is pointing out. Go to your perspective window, in the Shading panel->smooth Shade Selected Item to view the result. If the "hair" pointing in, go to Edit Surface panel->Reverse Surface Direction. This is to make sure that the polygon’s surface normal point to the correct direction (Figure 40)



(Figure 40)

4.2 While the surface still selected, go to Polygons panel->NURBS to Polygon options. Set number U& V to 24. Click Tessellate. Move up the polygons, Now you will have the polygons Left Head and NURBS Left Head still remain. (Figure 41)



(Figure 41)

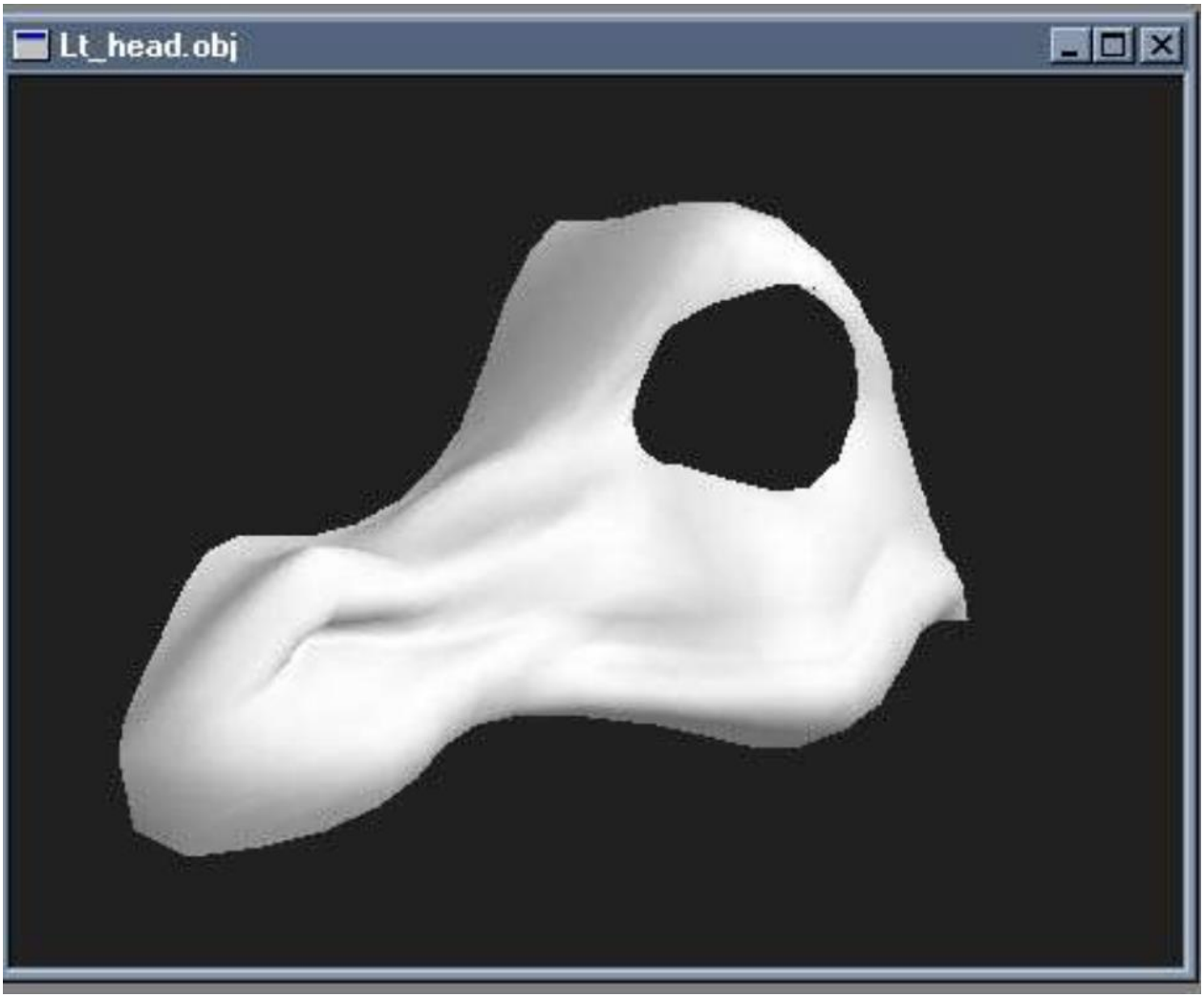
4.3 Go to your Window panel -> General editor ->Plug-in Manager, select obj. Export.mll to loaded and auto load. Now, have your Lt_Head selected polygon, go to File->Export Selection's options, pick the file type as OBJexport, then save it to obj directory under your project directory or any directory that you like.

5.1 Ok, we are going to leave Maya for a while. Launch any paint package that you like to import the Lt_Head. I will use Deep Paint 3D in this work. File -> open to the directory contain Lt_Head. obj and you will see this Material import window. In the Object column, your will find UV word, that's mean your polygons are prepared with UV, It's ready to paint! (Figure 42)

(Figure 42)

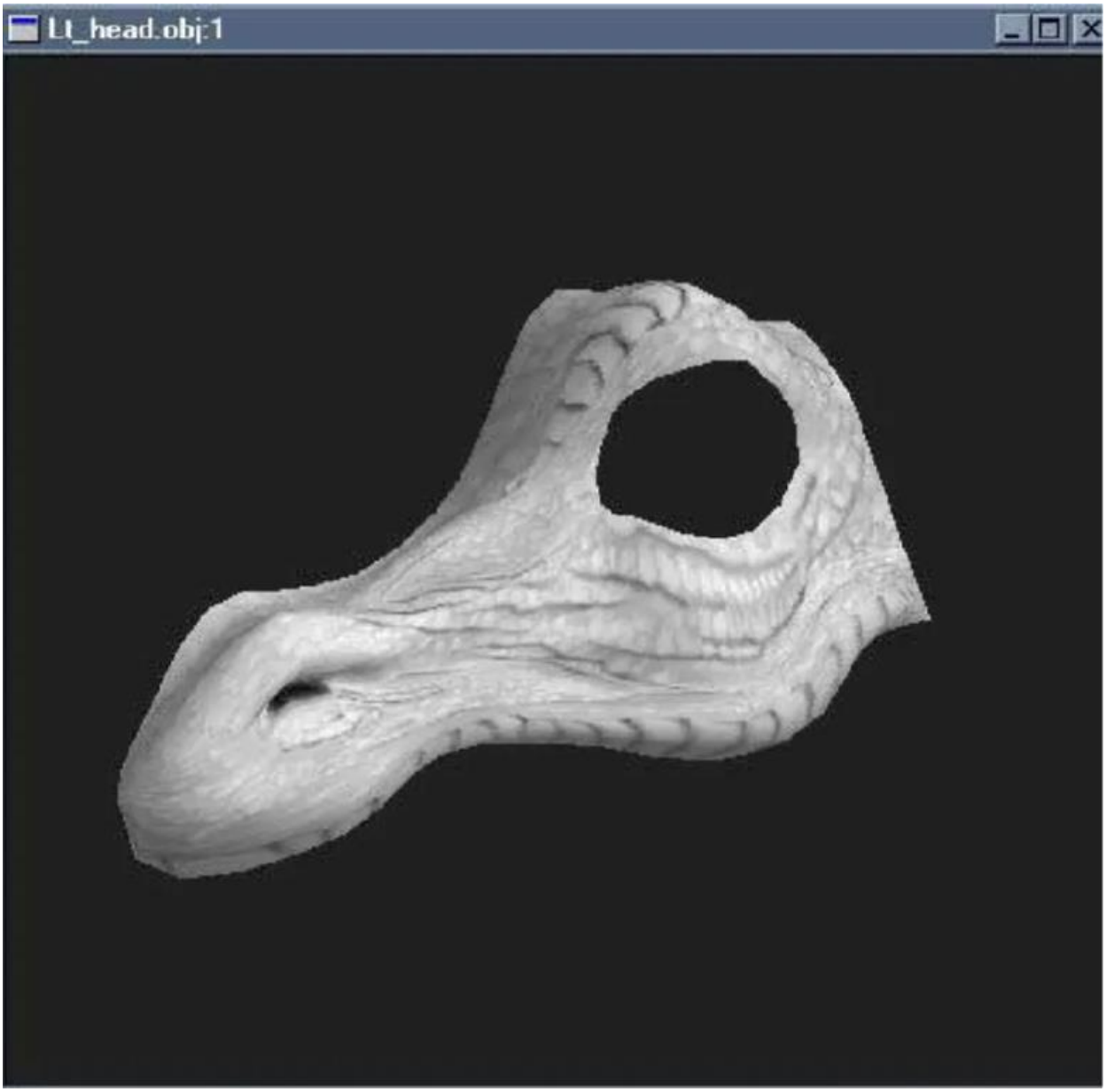
5.2Click on the Material column's gray area to call up Set Material Size window, enter your texture size. It's good to keep your master copy texture in higher resolution that u can scale itdown later according to your needs.

5.3 I prefer to work on bump map as a colour map in grey rather then paint the real bump onthe model. So I click on C (colour) in Material Channel, then click on colour in Add NewChannel. Select white as my colour and will get this. (Figure43)



(Figure43)

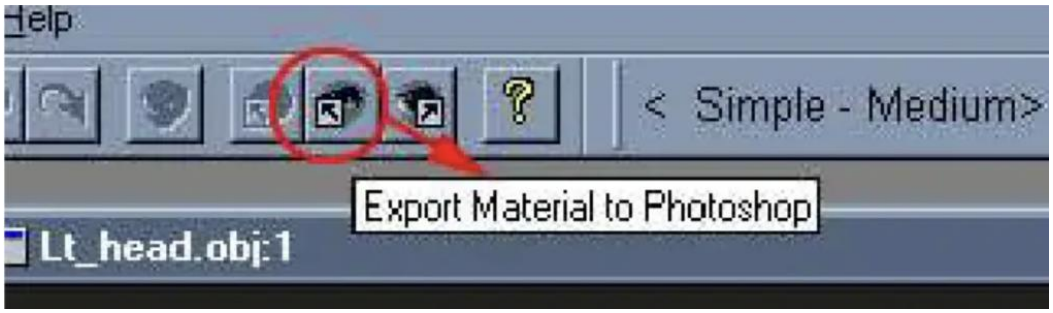
5.4 After painted (figure 44)



(figure 44)

click on export material to photoshop icon to further define the texture in photoshop.

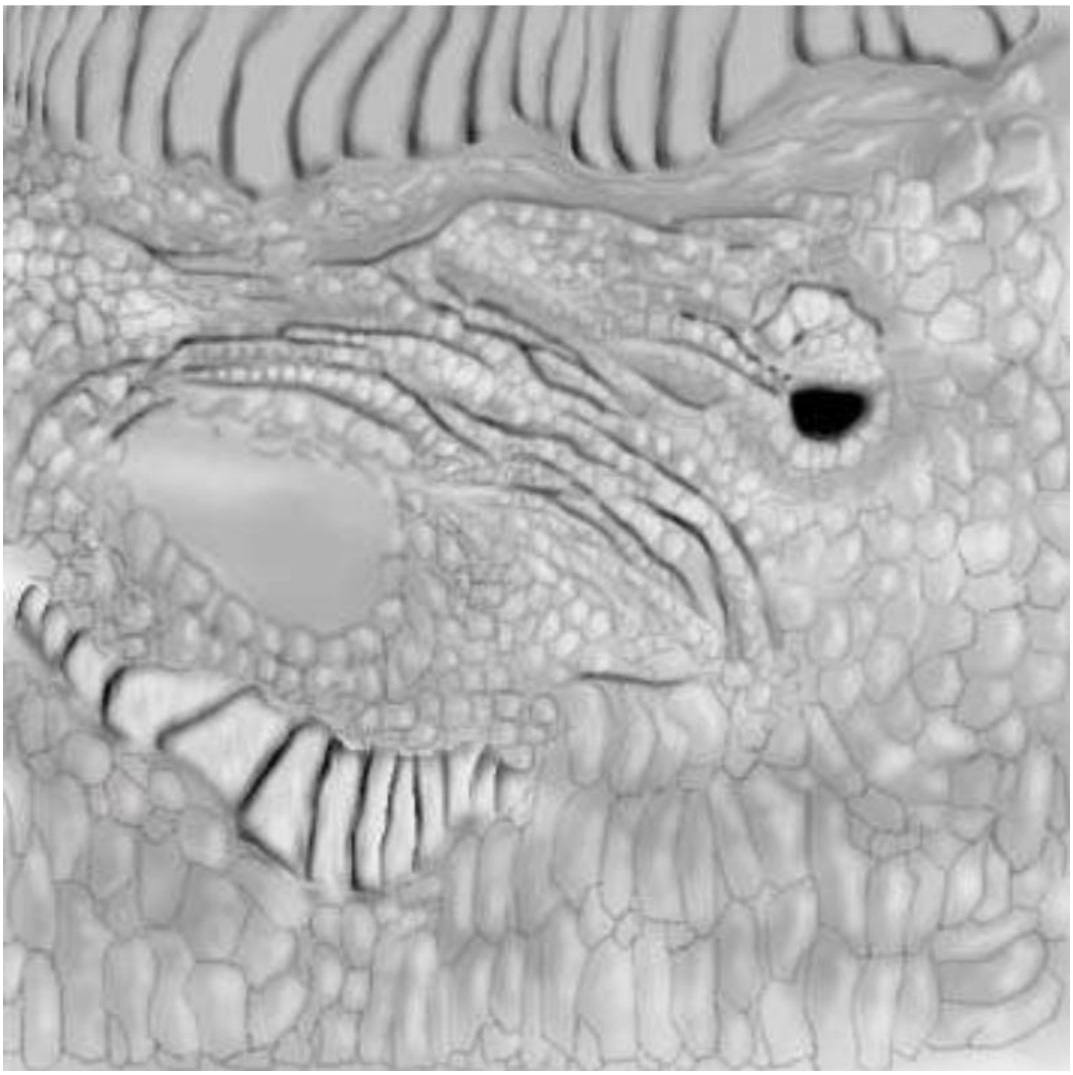
(Figure 45)



(Figure 45)

or save your image in 2D file format for Photoshop.

5.5 This is my final bump map for Lt_Head. (Figure 46) Save your work to popular file type such as Targa in your texture directory.

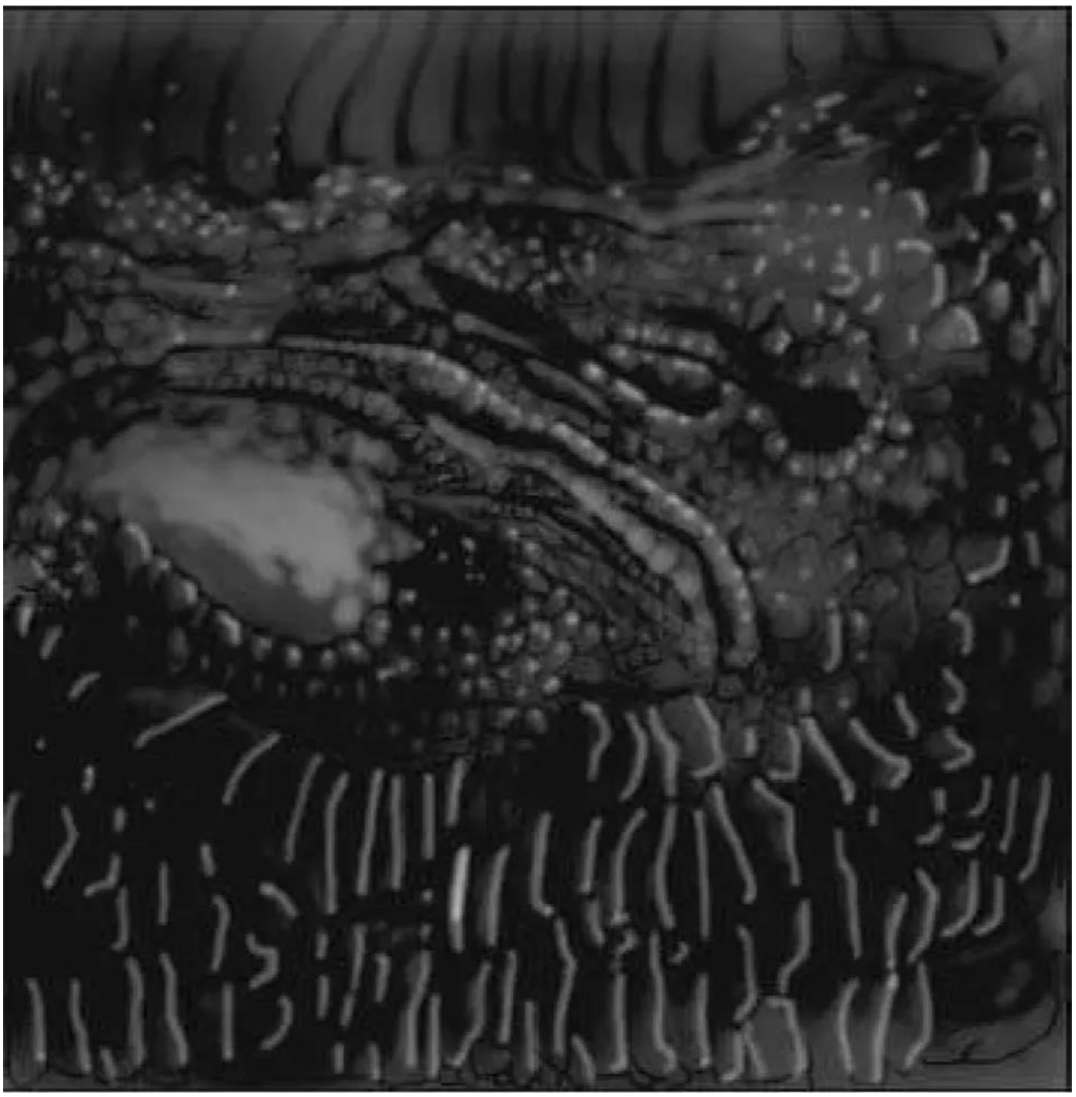


(Figure 46)

5.6 From the bump texture, I used Photoshop's layering capability to create my colour map (Figure 47)

(Figure 47)

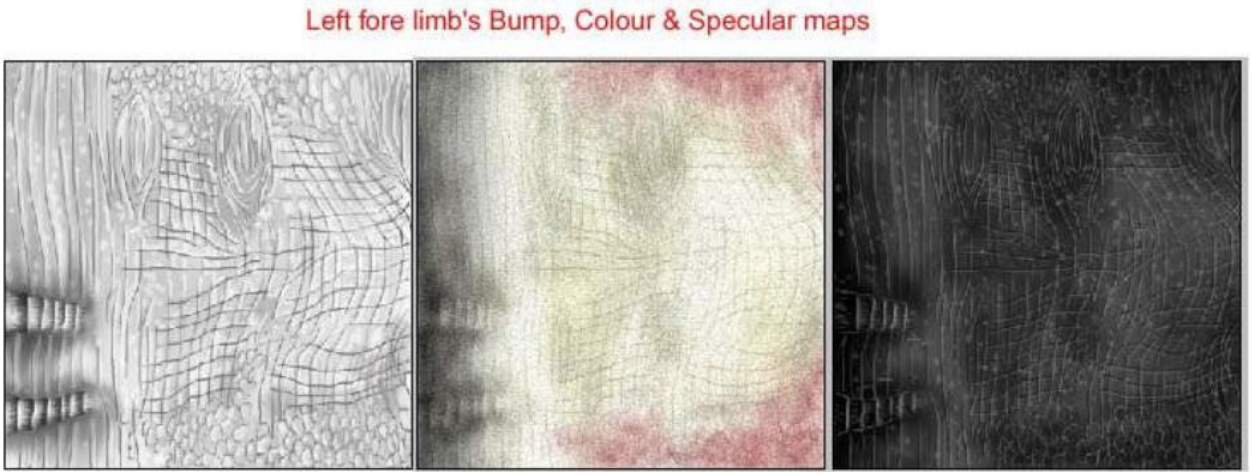
as well as specular map. (Figure 48)



(Figure 48)

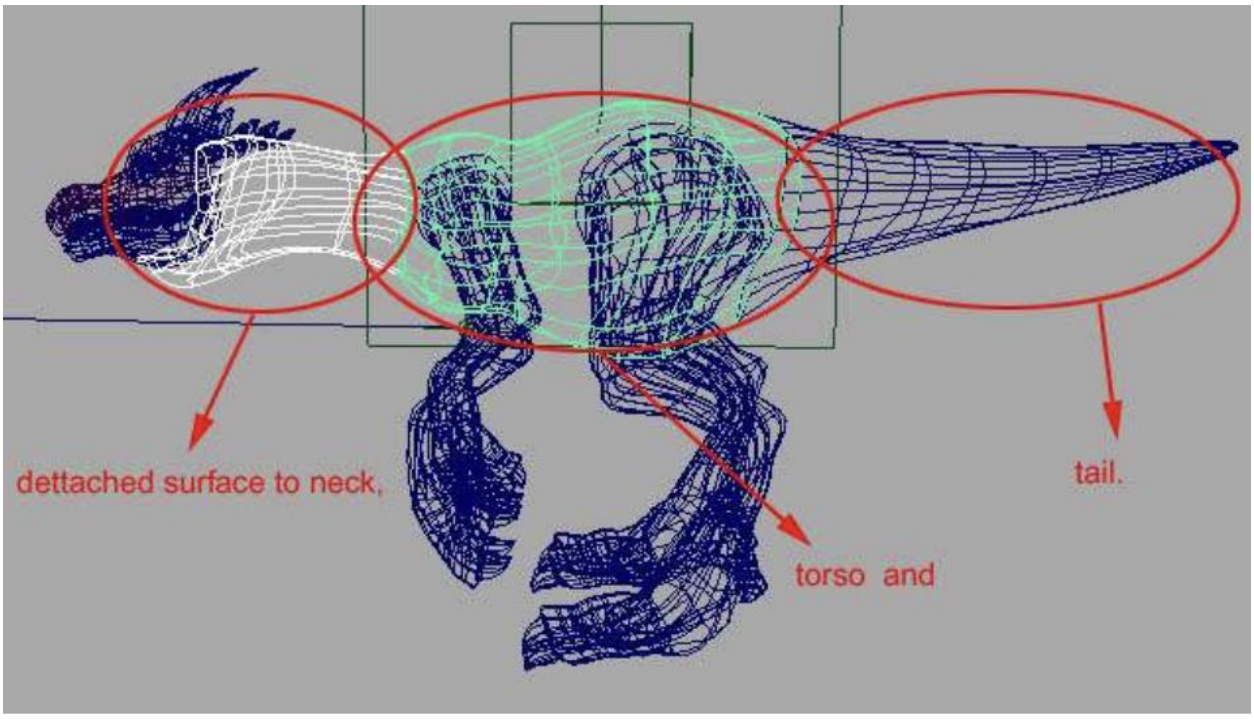
This texture can be reused to it mirrored or duplicated object without redraw your textures. It perfectly matches to them. So you only need to do for left side head 's colour, bump and specular and these are reusable for right side head. As well as one side of limb for map 2 side.

5.7 I repeat these steps from 4.1 to 5.6 for the rest of the surfaces that I wish to do 2D mapping. (Figure 49)

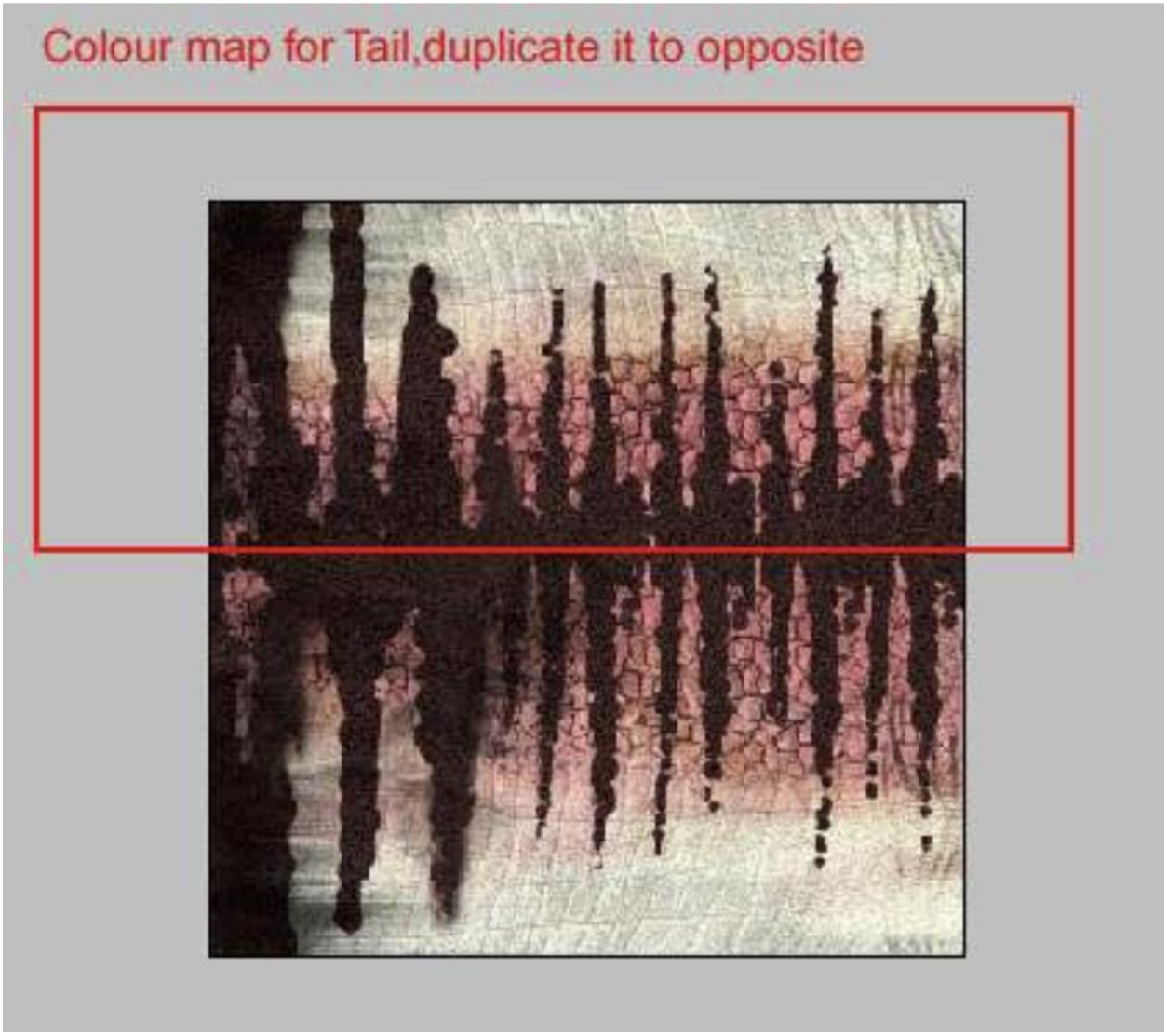


(Figure 49)

5.8 As I proceed to the body, I found out that the creature's body in a piece is pretty hard to control my mapping, so I decided to detach it and rename them into 3 different surfaces: neck, torso and tail. Then stitched them back accordingly. (Figure 50)



(Figure 50)



5.9 I deleted all of the polygon geometry in Maya after I completed my 2D textures paint because I going to use this textures map as UV map for my NURBS geometry. To delete all polygons geometry, go to Edit panel ->Select All by Type -> Polygon Geometry then press Backspace key to delete them. Now we remain all the NURBS as beginning stage.

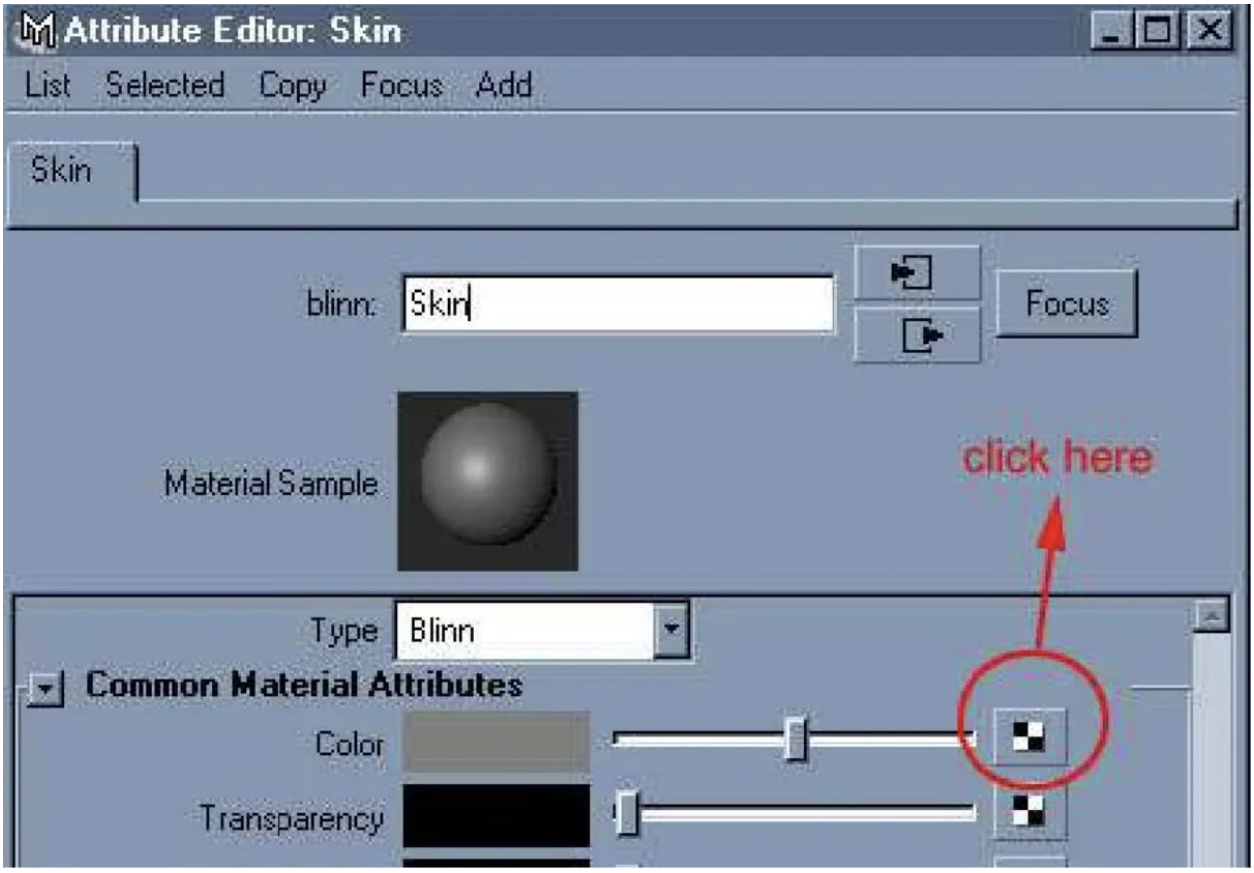
press Backspace key to delete them. Now we remain all the NURBS as beginning stage.

Using Triple Shading Switch to Shade the Creature

This is the time to see how our textures go with the surfaces. As u can see, I will assign colour, bump and specular map to Blinn material. I'm going to use Switch node to enable me to specify a shading group for many objects to have different characteristic within the shaded members.

1.Open Hypershade window and locate the early created Blinn. Rename it to Skin. Double click on it to bring up it's Attribute Editor.

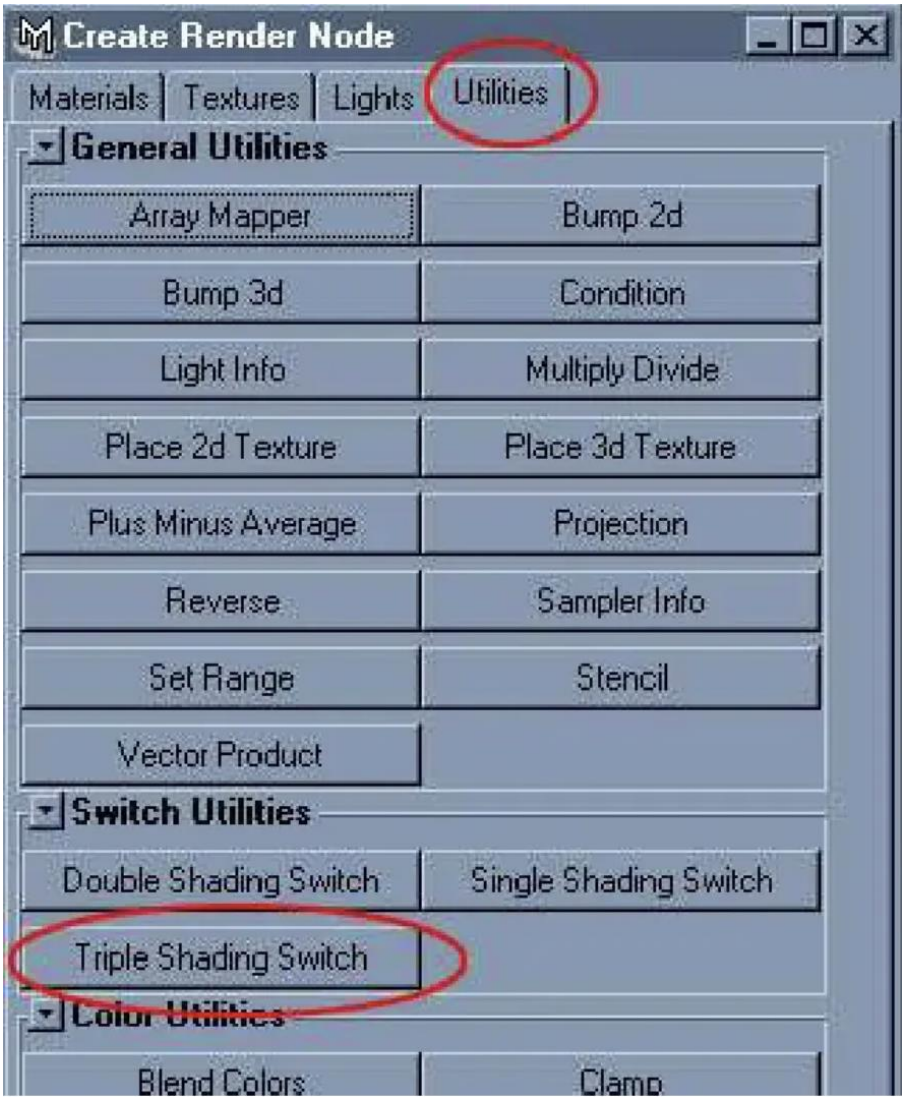
2.Click on the colour's map button (Figure52)



(Figure52)

and you will bring up Create Render Node window.

3.As for colour maps; the Triple Shading Switch will allow the switching of three-channel values (RGB). With this switch you can have a single shader control the general surface attribute of many objects but different texture of each object. Click on Utilities tab ->Switch Utilities->Triple Shading Switch. (Figure 53)

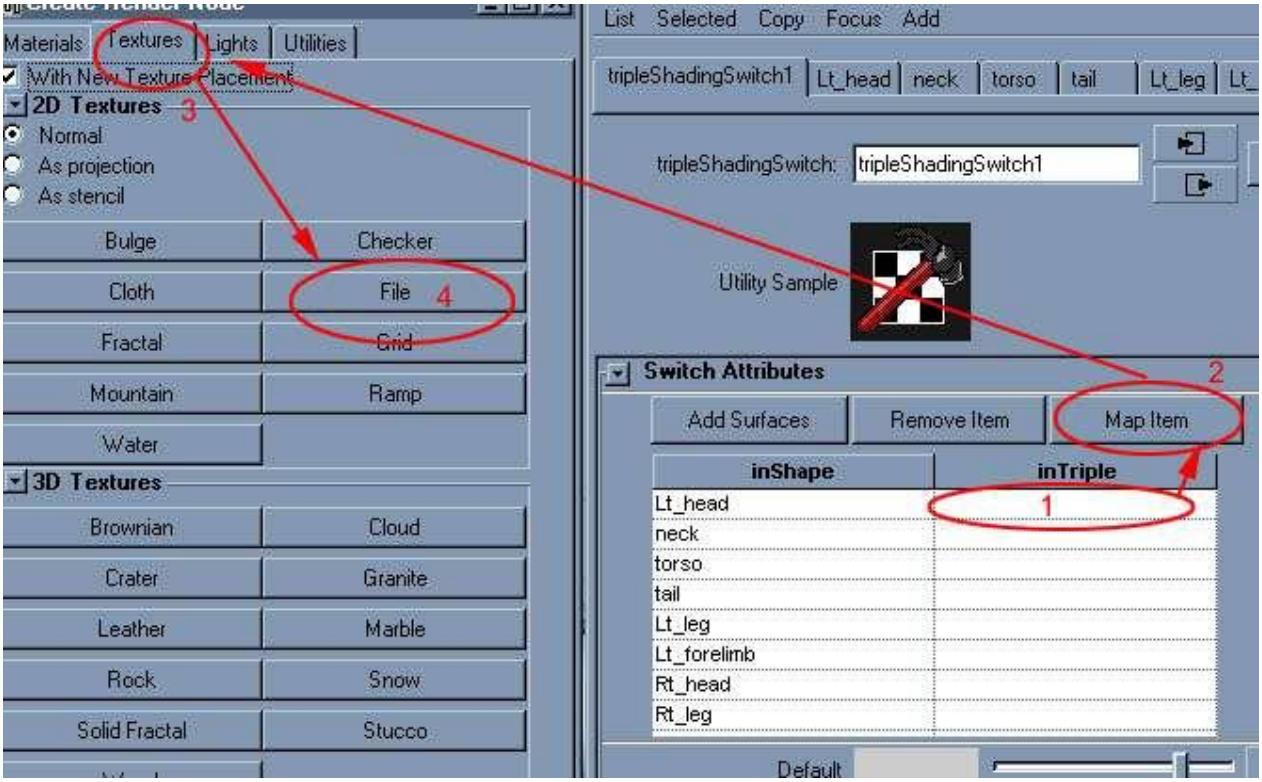


(Figure 53)

4. Open Outliner window, put it beside Triple Shading Switch1 Attribute Editor window, select the renamed surface, MMB drag to inshape's column. (Figure 54)

(Figure 54)

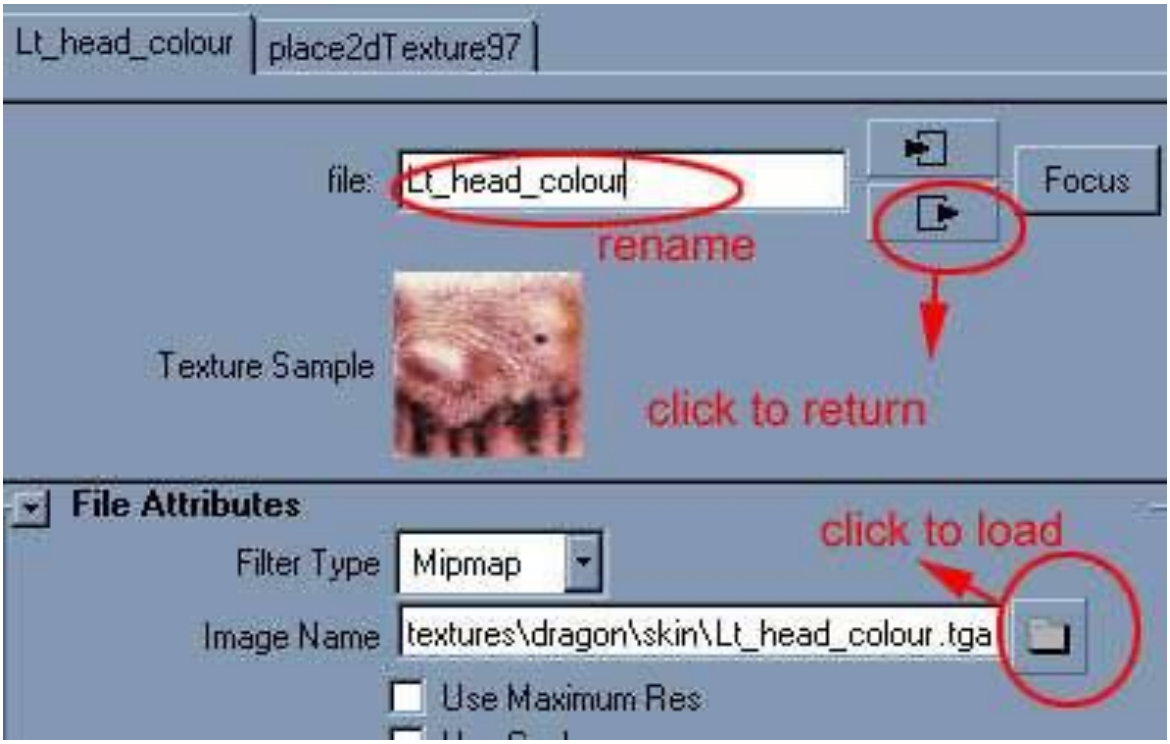
5.Click on Lt_head's inTriple column, then click on Map Item on the above will bring up Create Render Node window. Click on File under Texture's tab (figure 55)



(figure 55)

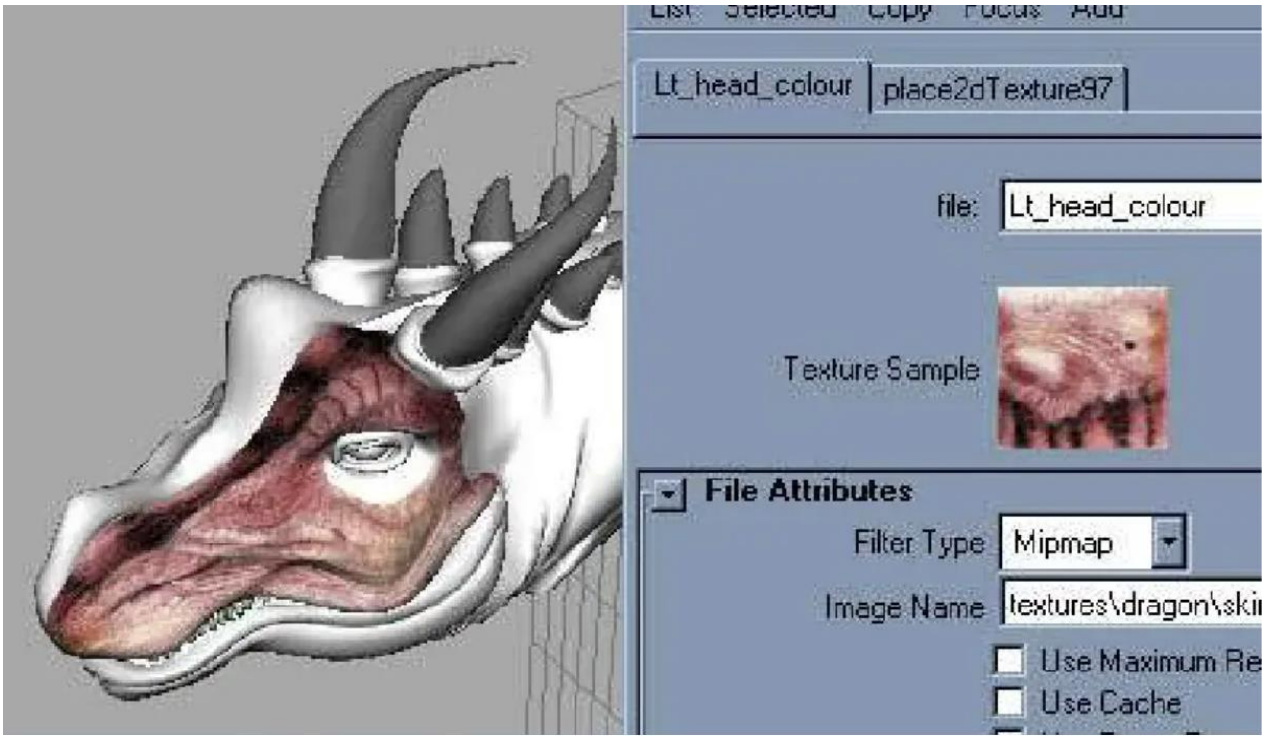
and will bring you to this window. (Figure 56)

load the texture from your textures directory and change the "File #" to" Lt_Head colour".



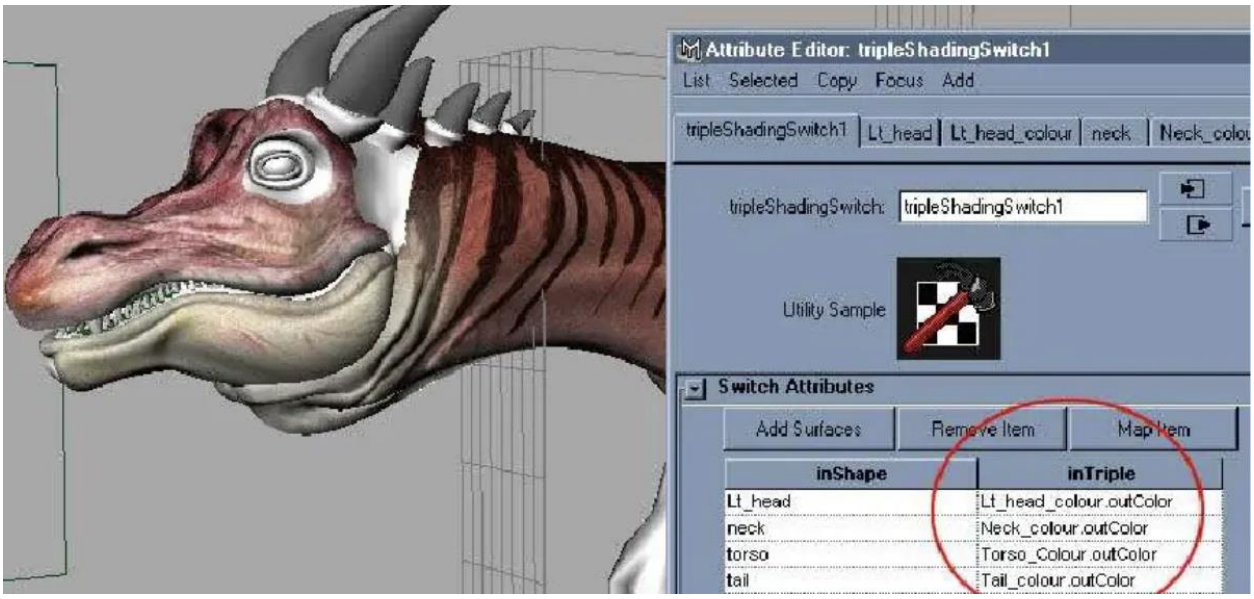
(Figure 56)

6.Go to your perspective window's press 6 to turn on Hardware Texturing. (Figure 57)



(Figure 57)

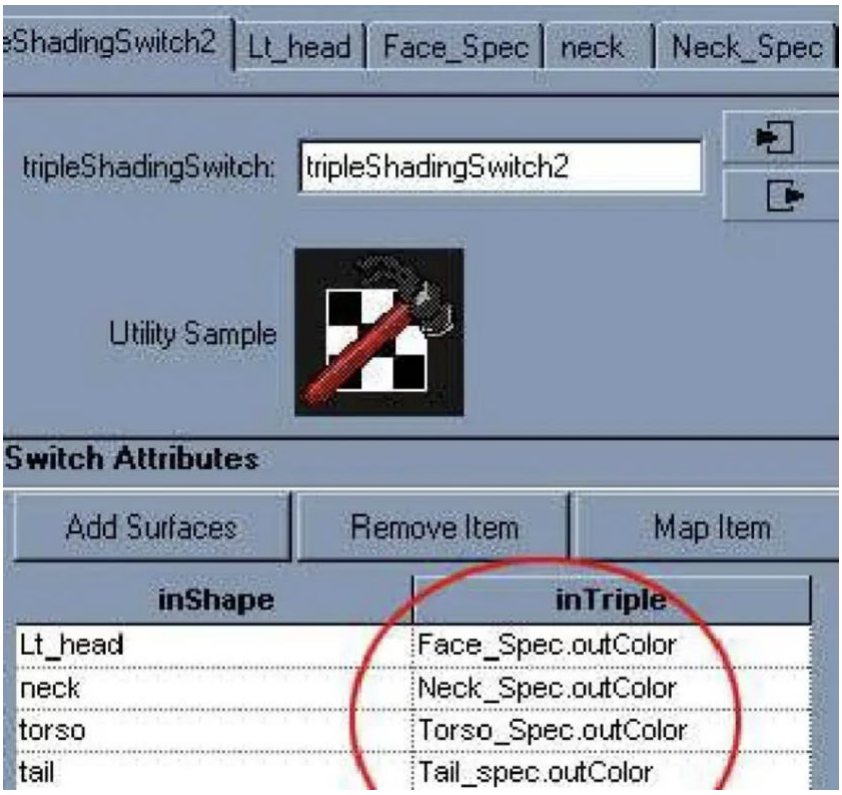
7.Repeat step 5 for the rest of inTriple's column. (Figure 58)



(Figure 58)

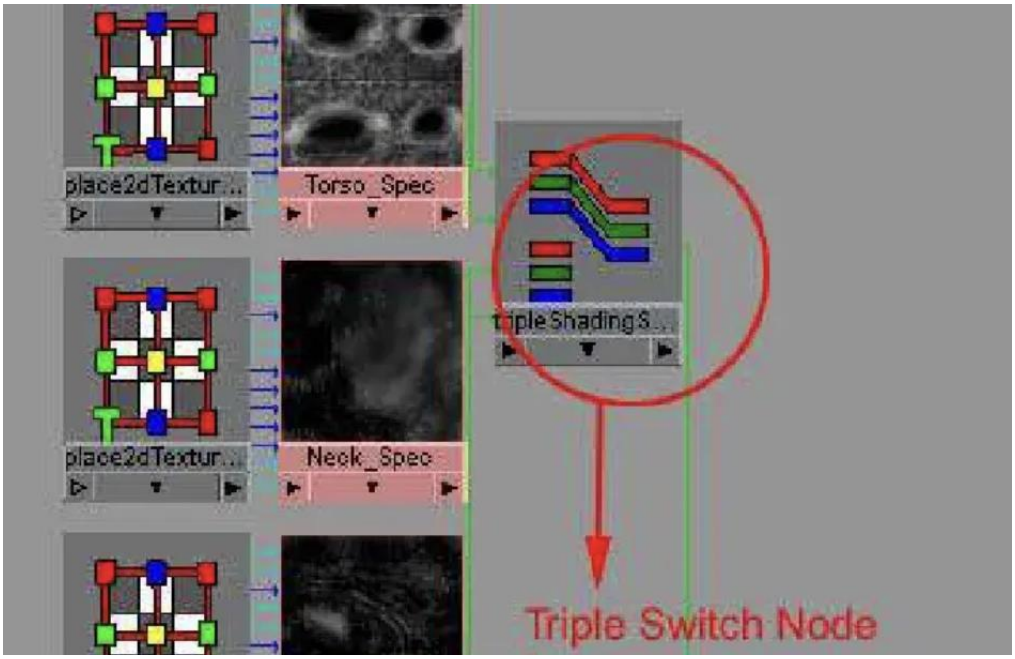
8.I will use the same way to map specular maps to the surfaces. Now, double click on the Skin (Blinn) from the Hypershade window's working space to bring up its attribute window.

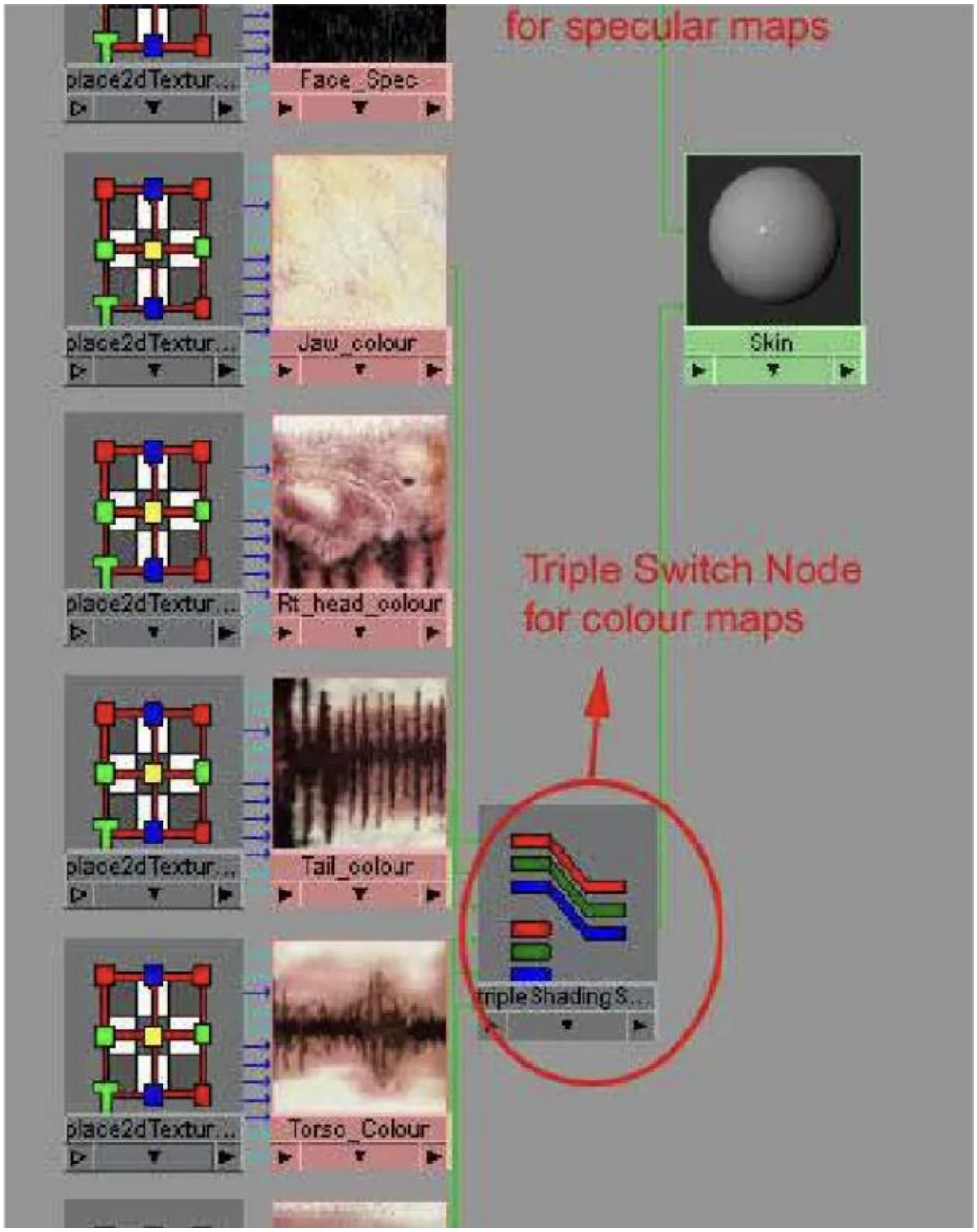
9.This time, I will click on Specular Colour's map button to add in Triple Shading Switch to allow the Skin (Blinn)'s shader to control the general surface attribute of many objects but different specular map of each object. (Figure 59)



(Figure 59)

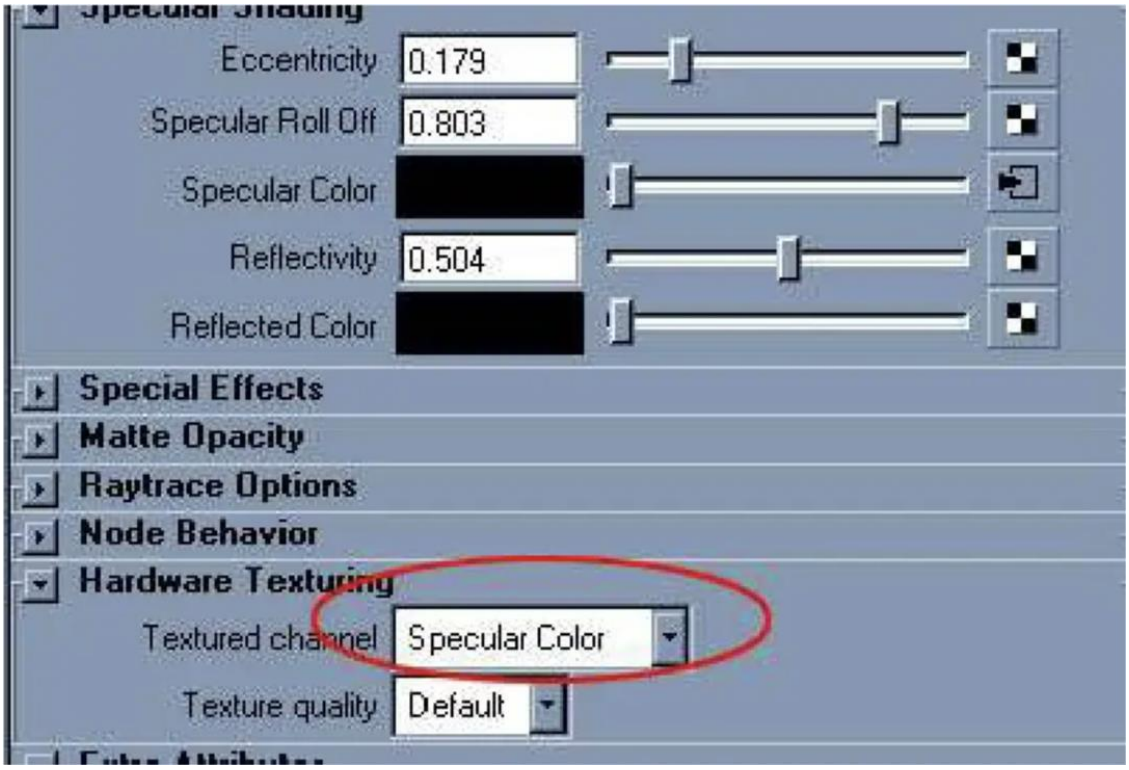
You may want to take a look at Hypershader's workspace to view the connection between them. Right click and hold on the Skin (Blinn) to bring up a pop-up menu, select Graph Shader Network to view their render connection. (Figure 60)





(Figure 60)

To see how's the specular maps placed on the model, go to the Skin's Attribute Editor, expend Hardware Texturing, select specular color. (Figure 61)

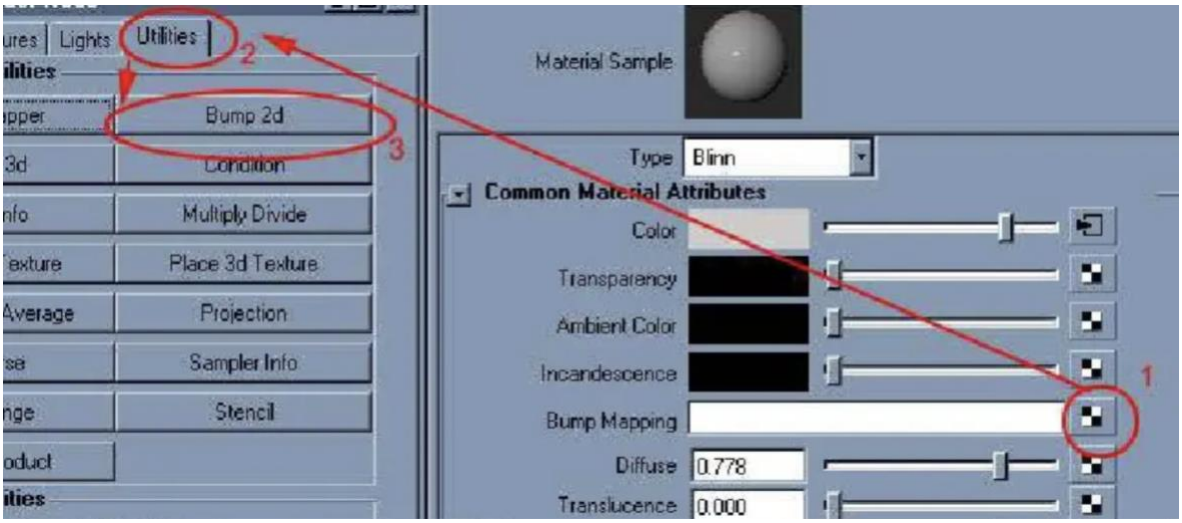

Eccentricity
0.179
Specular Roll Off
0.803
Specular Color
Reflectivity
0.504
Reflected Color
Special Effects
Matte Opacity
Raytrace Options
Node Behavior
Hardware Texturing
Textured channel
Specular Color
Texture quality
Default

(Figure 61)

Using Single Shading Switch to Map Bump Maps

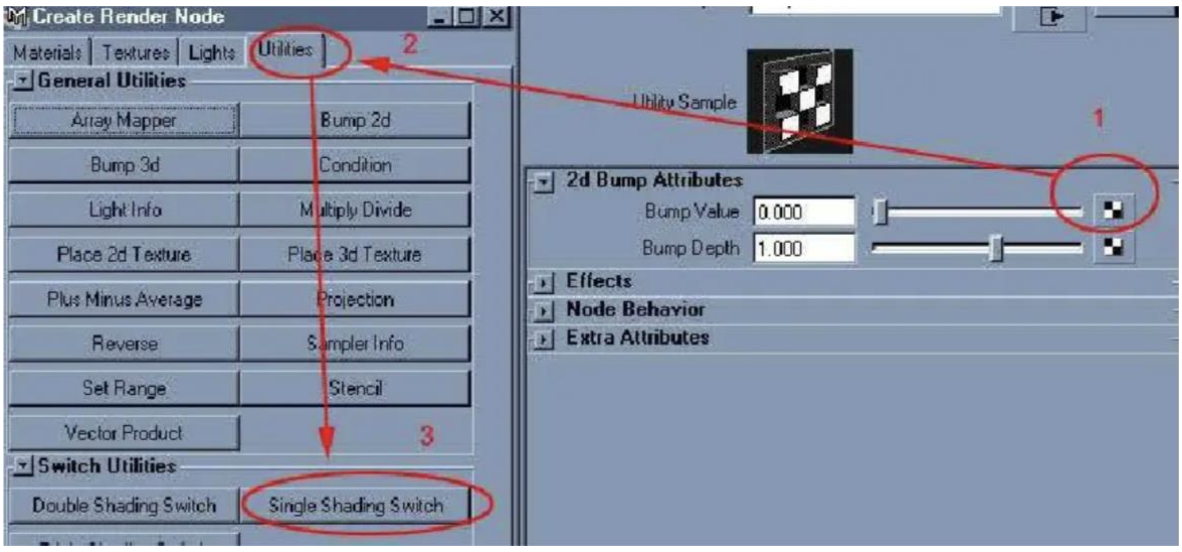
The Single Shading Switch allows the switching of single float attributes, for example, bump depth.

1, Bring up the Skin (Blinn) attribute, click on Bump mapping's map button, click on Utilities tab and select Bump 2d. (Figure 62)



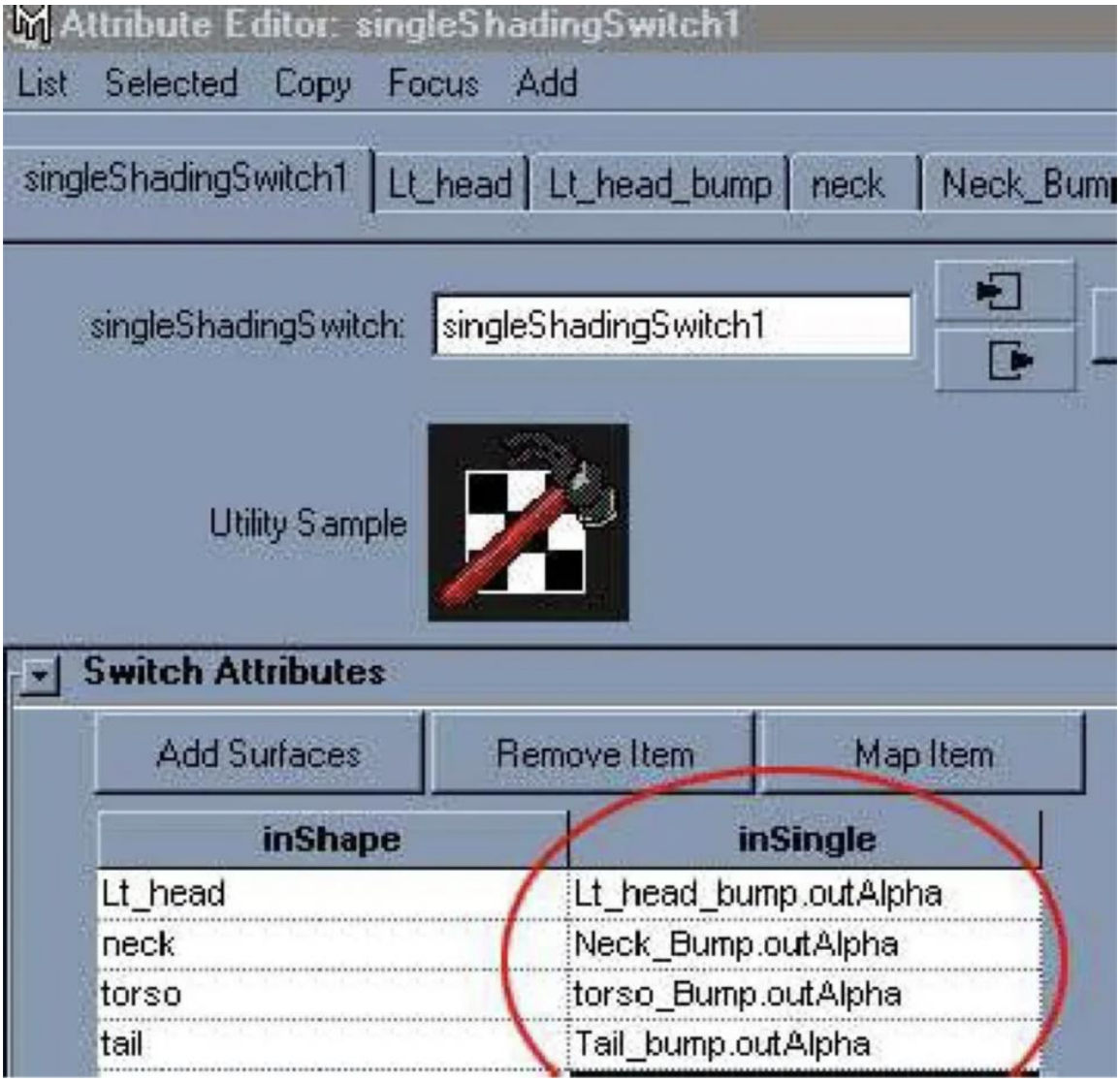
(Figure 62)

2. From the Bump 2d window, click on Bump Value's map button, Utilities Tab and Single Shading Switch. (Figure 63)



(Figure 63)

3. Doing the same way as before to load In Shape and In Single. (Figure 64).



(Figure 64)

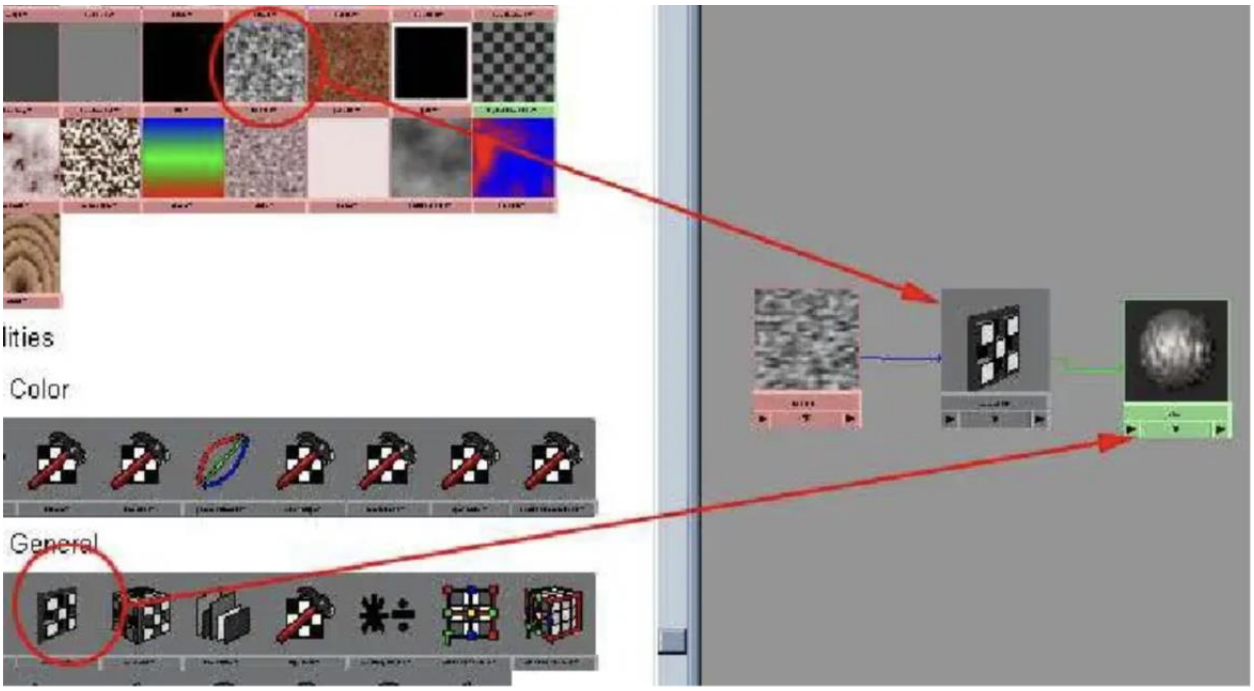
You may want to do a test render to view the result.

Map with procedural map.

I will use Maya's build in procedural map to map the horns, nails and teeth.

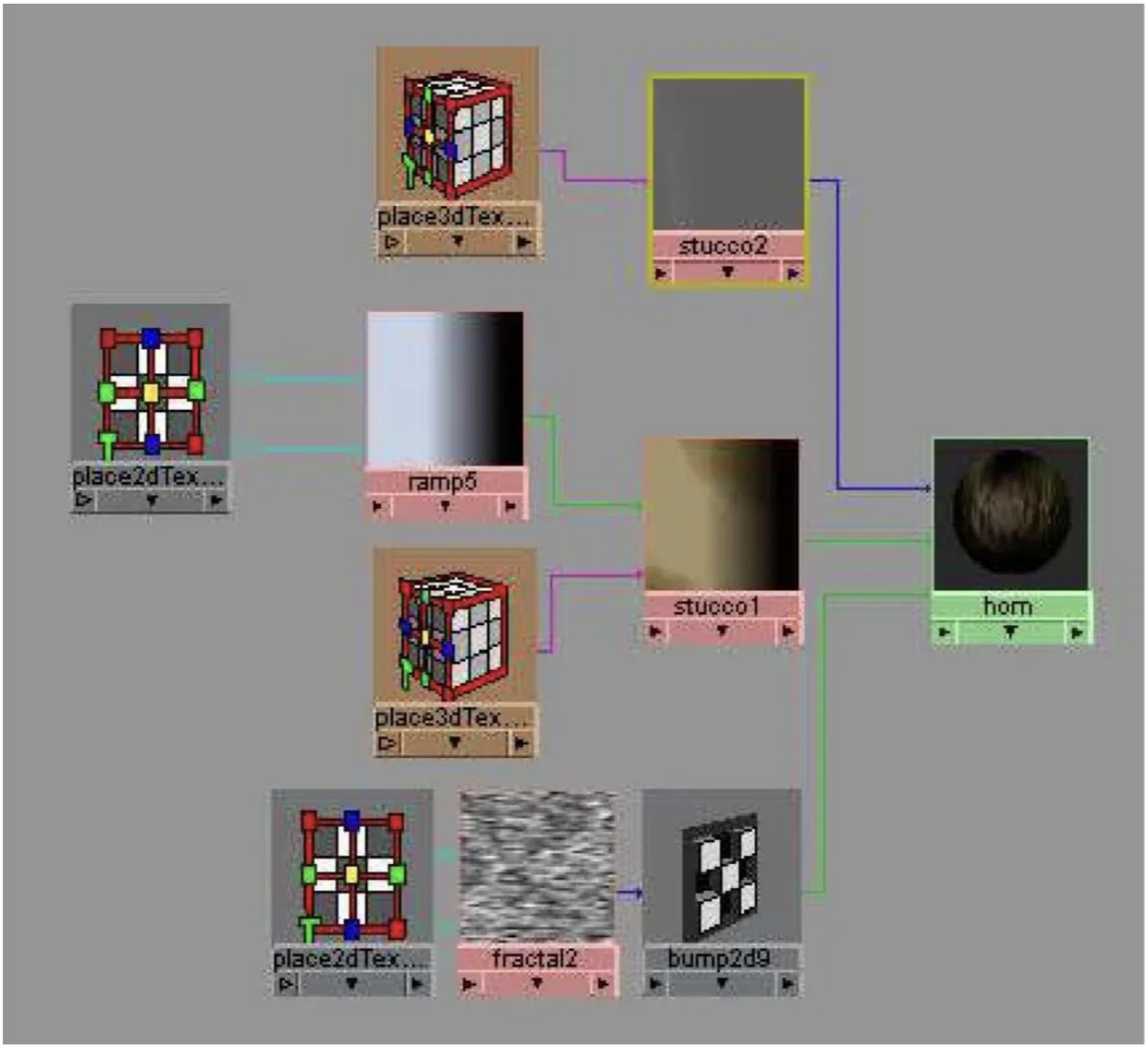
1. Create a Phong rename it to "horns" and assign it to horn's models.

2.To create bump map for the horns .In the Hypershade window, MMB drag and drop bump 2d on the Phong's node. Then MMB drag and drop Fractral on Bump 2d node to create render network (figure 65)



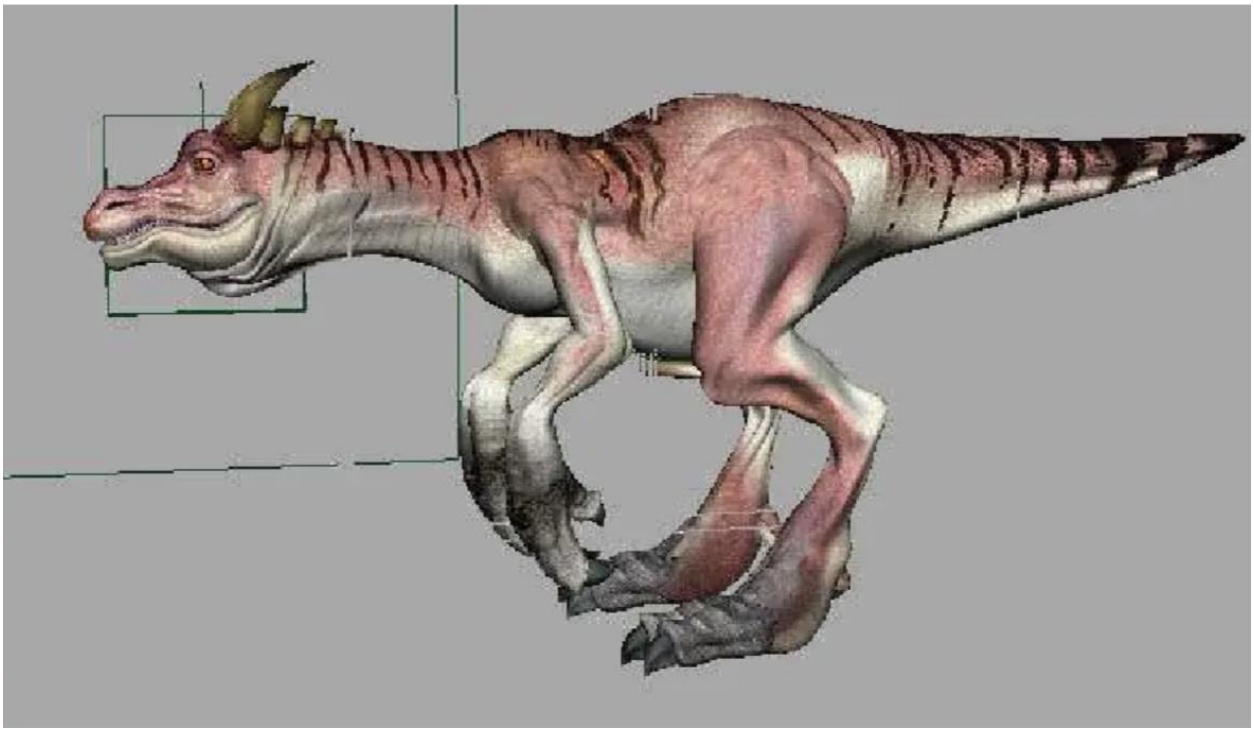
(figure 65)

Perform a test render using IPR render view. Select an area in IPR window, tune the bump 2d and fractral node to have interactive update of your rendering image. Colour and noise were added using the drag and drop way. (figure 66)



(figure 66)

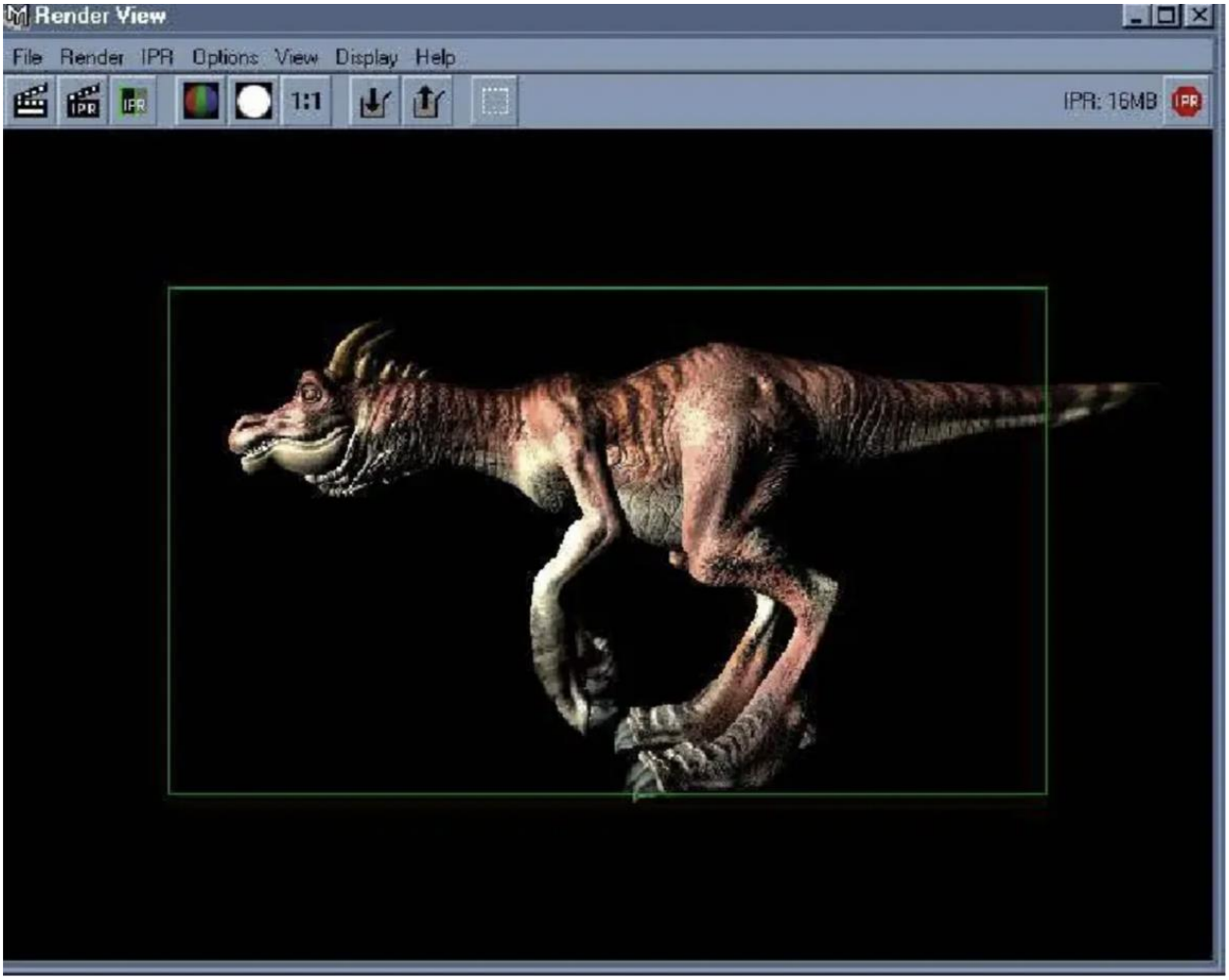
After I've done, I use the same way to create textures for nails and teeth. Check all the geometry with texture map in Hardware Texturing mode. (Figure 66a)



(Figure 66a)

Fine Tuning with IPR

We are completed mapping the creature. The last thing to do is fine-tune the materials' attribute that we assigned in early. IPR will do a great job in this aspect. But before that, you need to setup some lights to light-up your character. (Figure 67)



(Figure 67)

I open up the attribute and adjust some value to see how they influent the model. After I satisfy with the setting, I create a fill light, a back light and a bounce light to make the character more interesting. Perform a final render (figure 69)

(figure 69)